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ORIGINAL ARTICLES.

REPORT OF NEEDLING A CATARACT IN A PATIENT THIRTY-FIVE AND ANOTHER THIRTY-SEVEN YEARS OF AGE.*

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How late in life may it be wise to attempt to remove cataract by needling is one of the practical questions which comes to the ophthalmologist. The actual operation is much safer than in any of the other methods of removing cataract; it is easy to perform; there is almost no chance for infection; and there is almost no mutilation of the eye, as there often is in simple extraction and always in extraction with iridectomy. It is not so much of a strain on the patient, and usually the subsequent treatment is much easier for the patient, and requires much less of the surgeon's time and care.

If we can dispose of a cataract by needling, without the occurrence of iritis and subsequent adhesions of the iris, we have an ideal result. This justifies us in trying to remove cataract by this method as late in life as possible. The age limit as stated by different authors varies greatly.

Parsons says, "Discision or needling of the intact lens should rarely be performed after fifteen years of age. It may be em-

*Read at the January meeting of the St. Louis Ophthalmological Society.

ployed up to thirty or even thirty-five, but the nucleus of the lens is then likely to give trouble."

Most writers emphasize the desirability, if not the necessity, that the patient be young. Of course, the younger the patient the better the prospect for a perfect and speedy recovery. But occasionally cases will come to us in middle life, where we may wish to remove the cataract and at the same time to avoid special risks incident to and following extraction. When these cases arise we remember such statements as that of Knapp in "Norris and Oliver": "In soft cataract of young people, up to the age of fifteen, as is generally alleged; but before the re-introduction of simple extraction, I have successfully and with the best visual results, removed cataracts by discision up to the age of thirty-seven, in patients whose eyes I did not want to mutilate by the broad iridectomy then fashionable."

On this subject Juler says, "Any kind of cataract, whether nuclear, lamellar, cortical, or general, occurring in subjects under thirty-five years of age is, as we have mentioned, soft in structure." Then he goes on to describe needling, after which he adds, "The younger the subject the more quickly do solution and absorption take place, and the less liable is the eye to severe inflammation after the operation. After the age of thirty-five the nuclear portion of the lens is so hard that the number of operations, and the time required are beyond endurance, while the larger size of the lens and the greater intolerance of the eye to increased intra-ocular tension renders the operation more dangerous than in young subjects."

The question has been a vital one with me in connection with a recent case, which has given me some rather anxious hours, but since beginning this paper the suspense has been removed by a successful result, far beyond my expectations.

I have had two cases which bear on the question. The first was Mrs.—, who consulted me for headaches and asthenopia February 26, 1892. Examination gave,

O.D. Hm .5 Am 2. M_c 105°, V 20/48
O.S. Hm .5 Am 2. M_c 100°, V 20/15

The ophthalmoscope showed O.D. haziness of the lens, and the vitreous chamber full of floating masses, O.S. media clear. The headaches and asthenopia were successfully treated. Two years later she consulted me again for headaches. At that time

O.D. V 3/96, O.S. V 20/15; the ophthalmoscope showed marked haziness of the lens at the anterior and posterior poles. A year after this, April 19, 1895, when the patient was thirty-five, she consulted me about the right eye, in which the lens was milky in appearance, making the disfigurement quite noticeable. I advised operation, and May 3, 1895, I needled the lens at her home, the pupil being fully dilated by atropine 1/120 and cocaine 1/30, used in my office daily for five days previous. The next night, about thirty hours after the operation, there was so much swelling of the lens and so much pain that I performed a linear extraction.

Recovery was uneventful, and on June 21st, a little over six weeks later, vision of the operated eye with a correcting glass was 20/30; with it she read the *North American Review*. I last saw her October 11, 1907, when I gave her reading glasses; at that time vision with the operated eye was 20/24 to 20/19.

The second case was Mrs.—, who consulted me September 27, 1902, on account of headaches, having noticed for about a month that vision O.S. was becoming defective. With proper correction I found O.D. V 20/15, O.S. V 20/30, later rising to V 20/19. The ophthalmoscope showed commencing cataract O S. She consulted me from time to time for various reasons; November 17, 1904, O.S. V 20/150. Three and a half years later, when she was thirty-seven years old, vision O.S. was reduced to perception of light, with projection, tested with two candles, perfect. The cataract was quite perceptible. Cultures were taken, and April 13, 1908, as soon as I had evidence of the bacterial cleanness of the conjunctival sac, I needled the cataract. There was a considerable discharge of milky fluid into the anterior chamber. In the course of a few hours the patient became much nauseated, and the eye very painful. The nausea continued from thirty-six to forty hours; the pain persisted for several days; by the use of morphine, aspirin, and phenacetin a linear extraction was avoided.

Recovery was rather slow and was attended with considerable iritis. June 13th, two months after the operation, the eye was quiet; the pupil dilated 1/2 ad maximum, and occupied by what seemed to be an almost unaltered cataractous lens. The patient wished to go away for the summer. I told her that probably another operation would be necessary in the fall; but she was not at all certain that she would come back for it. I have since

learned that she was told by some of her friends that I had made a mistake, but I am glad to know she resented this.

Fall came and went, and part of winter, and I heard nothing from her. I concluded that she had decided to give up the attempt to have her sight restored in the cataractous eye, and at this point my paper would have been closed with an argument to justify my conduct of the case. But to my surprise I received a note from her a short time ago stating that she was beginning to see objects with the operated eye. I wrote her that I would like to see her, and January 7, 1909, she appeared at my office. Very much to my astonishment I found that the cataract had disappeared, the pupil was black, and the eye looked quite like the other except for some irregularity of the outline of the pupil. Vision with +12.5 Sph was 20/75 to 20/48. The ophthalmoscope and oblique illumination showed a wrinkled membrane occupying the pupil, through which only an indistinct view of the fundus could be obtained. She will return at a more convenient time to have this membrane disposed of.

One of these cases was first seen at thirty-one, and the other at thirty-two years of age, which must have been shortly after the cataract had begun to develop. Slight lens changes were visible in the left eye in each, the other eye being unaffected. Vision in the defective eye was about the same in each. The first was under observation three years and the second four and one-half years before the operation was performed.

In the first case the needling was supplemented by linear extraction, and the treatment lasted about two months; best result V 20/19 to 20/12. Twelve years after the operation V 20/24 to 20/19.

In the second case linear extraction was avoided, but needling of a residual membrane will be required. The operation was performed nine months ago, and the end is not yet; the inflammation had subsided in two months, though the solution of the lens probably continued nearly up to the present time.

I am indebted to Dr. John Green for notes of a case of cataract treated by discision in a patient forty-one years old: "Miss X, a deaf-mute and teacher of deaf-mutes, had lost the right eye from glaucoma, probably secondary to ulcer of the cornea. The left eye showed large floating shreds in the vitreous, together with disseminated opacities in the lens. She was wearing spectacles of about —7.D., with which V=3/xlviii. A year later, with

cataract fully developed, vision had become reduced to acute perception of light. The pupil, actively responsive to light, dilated *ad maximum* under homatropin 1/240. Although the patient was now forty-one years old, the previous diagnosis of extensive liquifaction of the vitreous, her extreme nervousness, and the impossibility of communicating with her except by signs conveyed through the sense of touch determined the choice in favor of attacking the cataract by discision. On May 5, 1891, under cocaine and with the pupil widely dilated by atropia, a sickle-shaped needle was entered near the temporal border of the cornea and carried across the anterior chamber to the nasal side of the pupil. The needle was then rotated on its axis, its cutting point brought in contact with the lens-capsule, and a horizontal linear cut made in the latter in the act of withdrawing the needle. The end proposed and attained in this first operation was to divide the capsule together with the superficial layers of the lens and, as far as possible, to avoid making traction on the zonula. A second discision was performed July 9, 1891, entering the needle near the lower limbus and making a vertical cut to join the former horizontal cut in the form of an inverted T. A third discision, carried deeply into the lens, was performed June 5, 1892, and a fourth and final one, resulting in a large central opening, December 10, 1893. When last seen, April 22, 1904, the pupil was central, of normal diameter, actively responsive to light, and perfectly clear and black. The ophthalmoscope showed the vitreous still full of floating shreds, as when first examined four years before. With spectacles, +9. Sph., V=15/xxxviii. With +13. Sph. she read the *Century Magazine* fluently. Her handwriting, in letters dated May 18, 1894, July 24, 1894, and January 6, 1895, fully justifies her statement that she was in the enjoyment of excellent vision. At no time during the entire period of treatment was there any sign of iritis, or other complication. The time which elapsed between the second and the subsequent operations might have been greatly shortened but for protracted visits made by the patient to her distant home."

I would say that thirty-seven years is not necessarily too late to remove cataract by needling, and that it is good practice to attempt it as late as this, or even later, unless there are conditions which contra-indicate it.

MEDICAL SOCIETIES.

OPHTHALMIC SECTION
ST. LOUIS MEDICAL SOCIETY.

Meeting October 14, 1908.
Dr. A. E. Ewing, presiding.

Papilloma of the Caruncle.—By Dr. Ernst Saxl.

This patient, a boy, came to Dr. Saxl's office about September, 1905. He then removed a tumor about the size of a small pea from the caruncle of the eye. It did not show any recurrence until October, 1908, three years afterward. During that time nothing had been done. From the same place a tumor about the size of a small pea was removed. Since then there has been another slight recurrence. It is a cauliflower growth and the bleeding was very slight.

Spontaneous Rupture of the Lens Capsule in a Cataractous Eye. —By Dr. A. E. Ewing.

The eye that is here presented, was first seen by Dr. Green, Sr., and myself in 1894, because of having become blind during the preceding four months. The cause of the blindness was a fully ripe cataract which it was considered best not to interfere with as the other eye was only slightly involved. Five years later the patient returned with also a fully developed cataract in the then better eye. There being some question as to the healthfulness of the first eye affected, the latter was chosen for operation, and an extraction performed which has remained successful.

Two years later, the first eye passed through a mild glaucomatous attack which was controlled by eserine and pilocarpine. Now, after seven years he again returns with absorption of the cortex and an apparent rupture of the lens capsule, within which, attached to the capsule, are several calcareous like particles, and also a luxation of the capsule containing the nucleus partially through the pupil, more than one-half of the nucleus being in the anterior chamber. The globe is entirely quiet, vision is 1/192 and there seems to be no good reason for operative interference.

Conjunctival Cysts and Papillomata.—By Dr. Adolf Alt. (See October, 1908, number, this Journal.)

A Case Presenting Repeated Burns of the Conjunctiva, Self-Inflicted.—By Dr. F. L. Henderson. (See October, 1908, number, this Journal.)

DISCUSSION.

Dr. Meyer Wiener had had a patient, a young girl, about a year ago with acute conjunctivitis. The usual remedies were used and patient got well within a few days. Later this condition developed in the other eye. After treatment the inflammation subsided, but a few days later reappeared in the first eye. In treating the eye, he found in the canthus something resembling a bit of coal, and knowing something of the nervous temperament of this patient, he consulted her practitioner and found that she had formerly had a skin trouble, which was probably due to the use of carbolic acid. It developed that she had also been treated by an ear specialist for an ear trouble, probably self-inflicted.

Dr. Llewellyn Williamson reported a case of a girl, 14 years old, who last year had been brought to him claiming to have been struck in the eye with a hat-pin while at school, and that, as a result, she could not see.

Examination showed no signs of injury but a considerable hypermetropic astigmatism, which was corrected. A few months ago, the patient again presented herself complaining that the eye was watering and burning. Examination showed a distinct zone of erythema involving the upper and lower lids and about one-half inch of the surrounding skin.

The margins of this zone were clear-cut and well defined, and terminated abruptly in a white line just below the margins of the lids. No œdema or brawniness of the skin, no signs of any inflammation beyond the erythema. A perfectly bland ointment was prescribed, and that night Dr. Williamson was astonished to receive a telephone message that the ointment, when applied, caused intense pain and burning and made the tears pour out like rain.

Several attempts at treatment with various medicaments, produced similar results, and finally the patient was sent to a dermatologist, who expressed the belief that the condition was self-inflicted. All efforts of the dermatologist to relieve the condition failed, and the patient was then referred to a rhinologist for examination of her sinuses.

Nothing definite resulted from this examination and she was referred to a neurologist who thought the condition one of atrophic disturbance of the nerve supply of the orbicularis.

A general practitioner considered her condition due to anæmia. Finally, by way of experiment, a collodion dressing was applied, covering the entire area of erythema, and in two days, when the dressing was removed, the erythema was found to have disappeared. A day later, the patient returned with the eye in the same condition as before.

Convinced now that the condition was self-inflicted, the mother was sent for, and both child and mother closely questioned. Both denied the possibility of self-injury. Further questioning developed the fact that the child disliked her teacher, and when she went to school, her eyes immediately became red, tears flowed, and she could not study. When an occlusive dressing was kept on the eye, there was no erythema. When the dressing was removed, the erythema returned.

This condition continued until at the close of the school year, when the child immediately recovered.

It might be said, in passing, that the mother attributes this cure to the influence of prayer.

LLEWELLYN WILLIAMSON, M. D.,
Section Editor.

Meeting November 11, 1908.
Dr. E. W. Ewing, presiding.

Hysterical Amblyopia.—By Dr. F. P. Parker and Dr. Wm. L. Nelson.

Mrs. E. K., age 76, nativity Ireland, applied for treatment in the eye-clinic of Washington University Hospital August 12, 1908. She stated that she was not able to see at all, and was led to the clinic by her daughter-in-law. The following history was elicited:

Patient was the third child in a family of nine. Four living. One sister died of cancer. Father lived to be 78 years. Mother 71. Family otherwise long-lived and healthy. She was the mother of six children, one living. Two died of tuberculosis. One, she says, of spinal fever attributed by her to a fall.

Patient has usually enjoyed good health. About two years

ago, there occurred a period of about one week during which she could not hear. She states that she could see people when in their presence and knew they were talking, but she could not hear them.

One day while she was at her sister's house, she was told by her sister, the reason she could not hear was that she remained alone so much and did not see or hear people until she was unable to hear what they said. She agreed that this was true. There were several people present, and shortly after this conversation she could hear perfectly well. Her hearing has remained good since.

About four months ago she had an attack of gastritis, which lasted three or four days. About three months ago, she noticed that her vision was not as good as formerly. At that time, and for some time previously, she had worn a pair of glasses, which one of her friends had told her, if she continued to wear would injure her sight.

Her daughter-in-law states she has been a steady drinker, sometimes greatly to excess. On June 15th, 1908, while in apparently splendid health, suddenly she experienced a flash or, as she describes it, a yellow streak passed before both eyes, and she became perfectly blind. She maintains, however, that she was able to conceal her condition from her family until five days later, when she fell and broke her arm.

External ocular examination reveals nothing abnormal. Pupils react to light and accommodation, also consensually. Muscular movements normal. Fundus normal; refraction plus three. Patient claims to have no sight, but follows movements readily. Also will walk to a designated chair across the room and sit down. Will not count fingers correctly; miss-calls objects held in front of her; unable to fix attention sufficiently to take field of vision.

The case being evidently one of hysteria, she was referred to Dr. Wm. L. Nelson for neurological examination.

Neurological Findings.—By Dr. Wm. L. Nelson.

Prompt reaction of pupils to light and accommodation, Pupils equal and of normal size. Marked anæsthesia of left cornea and decided diminution of corneal reflex on right side. There was no nystagmus or eye muscle defects. Pharynx anæsthetic, more marked on left side. Innervation of facial muscles equal. The

tear reflex, demonstrated by Spiller, of Philadelphia, is present. This consists of a copious flow of tears upon stimulation of the nasal mucous membrane. In organic disease, involving the ophthalmic division of the trigeminus, we would expect to find this absent.

There is analgesia involving the left side of the face, left shoulder, and whole left upper extremity. There is also a band of anæsthesia encircling the left leg, extending from the ankle to just above the knee.

There is hyperæsthesia of both mammary and inframammary regions. The joint, muscle and stereognostic perception, are fairly normal. There are no muscle contractures or paralyses. The knee jerks are slightly exaggerated. Achilles jerks are normal. There is no ankle clonus and the plantar reflex is normal.

Her touch sense is good. Temperature sense not tested on the first examination. While the patient maintained her inability to see, I noticed during the examination that she was able to move around the room between tables and chairs without inconvenience. She recognized me after seeing me the first time, and from her actions I was satisfied she could see some.

On August 26th, four days after my first examination, she was able to count fingers, but there was pronounced monocular polyopia. She said she was satisfied she could see better than on her first visit.

On August 29th, she was able to tell the color of an individual's hair, and could see objects some better than on her previous visits. On September 2nd, her vision had improved until she could see objects about 15° from the central line of vision.

I did not see her again until October 12, when Dr. Parker and I saw her together. She said that her vision was about the same as it was when I last saw her, but assured me she would be able to see very well if she just had her glasses. She had been crying, and she said that fact caused her eyes to be a little dim.

On examination, the left cornea was still anæsthetic, the right slightly so. The analgesia affecting the left side of the face and left and left upper extremity had disappeared. On the right postero-lateral part of the chest, was an area of analgesia, extending from the lower angle of the scapula downward about four inches, and from the spinal column around to the right mid-axillary line.

There was thermo-anæsthesia on both lower extremities extending up to the hips. The right visual field had increased to 25° or 30° from the central line of vision on the temporal side. The left field apparently had not increased any. The only treatment this patient received was psychical. There was distinct improvement as long as she was under observation. It is quite probable, had she continued under treatment, there would have been still greater improvement, for it was very noticeable how susceptible she was to suggestive influence.

Some Ophthalmic Cases with Specimens.—By Dr. James Moores Ball.

I.

HYDROPHTHALMOS, TRAUMA, DISLOCATION OF THE EYEBALL.

In 1900, a girl, aged four years, was brought to my clinic, showing hydrophthalmos of both eyes. The history obtained at the time, was as follows:

At birth her eyes seemed to be normal. Two or three days later, she developed a purulent conjunctivitis. She was treated by a member of this Section. Her eyes gradually enlarged and vision was lost except for light perception in the left eye. Five years later, namely, July 29th, 1905, this child was again brought to me. On the afternoon of this day, while playing alone, she stooped and struck her right eye on a projecting knob of a chair. The mother states that immediately after the accident the eye did not present any unusual appearance. One hour after, however, the eyeball was dislocated, as is shown in the accompanying photograph. Immediately after the injury, she had pain in this eye, which continued for one hour. The mother says "until after the eye had gradually worked out." I saw her at five o'clock, four and one-half hours after the injury. After having this photograph made by electric light, the child was chloroformed; the eye lids were separated with retractors and the eyeball was gently replaced. A silk suture was passed through the outer third of both lids and a compress bandage was applied. On August 10th, the stitch was removed. During this period, considerable fluid ran from the eye. One year later, my records show that only a small sunken stump remained to mark the site of what had been a hydrophthalmic globe.

Early in September of the present year, this patient was again

brought to me. Her age is now thirteen years. Of late she had severe pain in the left eye. On September 12th, I enucleated the globe, which I now pass for your inspection. It measures 45 mm. in the antero-posterior diameter, and 30 mm. transversely. The diameter at the base of the cornea is 28 mm. Although I have not had time to make a prolonged search in the literature, this eye is the largest one of the kind I have found recorded.

The influence which the presence of the eyeball has upon the growth of the orbit is shown in this patient, the right orbit being smaller than the left one.

II.

FLAT SARCOMA OF THE CHORIOID.

In regard to the second case, I regret that my notes have been mislaid. A few weeks ago, D. M., male, aged fourteen years, was brought to me. The present trouble began about four months ago. Vision of the right eye has been lost for several weeks. Examination showed an ordinary picture of absolute glaucoma. Tension, was plus 2. Owing to opacities in the lens, the ophthalmoscope could not be used with satisfaction. Diagnosis: Secondary glaucoma. Enucleation was advised and was made on October 13, 1908. After hardening, the eye was bisected. The specimen shows a flat, whitish, jelly-like, elastic mass situated between the retina and the sclera. The retina is detached, from the optic nerve to the ora serrata. Microscopic examination by Dr. C. A. Vosburg, shows a small round-cell sarcoma.

The interesting feature of this case is the shape of the new growth. According to Parsons, flat, diffuse or infiltrating sarcoma of the uveal tract, is extremely rare. In 1904, he was able to collect only 31 cases from the literature. The term "ring-sarcoma" has been applied by Ewetsky to those sarcomas of the chorioid which involve also the ciliary body and iris.

DISCUSSION.

Dr. J. Ellis Jennings said that he remembered seeing the first case presented by Dr. Ball, and he was certainly struck with the enormous size of the eye. The question of ætiology might receive some little discussion as to whether this enormous enlargement was congenital, or, whether it was acquired after an ophthalmia neonatorum. There must have been some congenital cause to account for this tremendous expansion of the eyeball in both eyes.

There were countless cases of ophthalmia neonatorum with ulceration and perforation, but he had never seen anything to compare with this case.

Dr. Julius Gross said that at the Missouri School for the Blind, there was a boy who had double hydrophthalmus. He believed that Dr. Charles had also seen this patient. This boy had a brother who had been at the school prior to the time that he was there, and this brother also had the same condition. The sight was perhaps not as bad as one would have expected from the appearance of the eye. Concave glasses improved the vision considerably. He was at the school several years, and the size of the globe did not increase materially. In this case there must have been a hereditary factor, from the fact that the boy had a brother with the same trouble.

Dr. Alt said that these cases of so-called hydrophthalmus, had all to come to enucleation. He remembered a child brought to him with a double hydrophthalmus, which evidently was what is now looked upon as a congenital glaucoma. There was a deep anterior chamber and a very large pupil. This child had some vision. After treating with eserine, iridectomy was proposed, and after operation was done on one eye there was decided improvement in the vision. Later operation was performed on the other eye.

Following that operation there was decided improvement. What the future history of the case was, he did not know. It was evidently a congenital affection but there was no staphyloma. He believed that it was a congenital glaucoma which had stretched the whole eyeball.

Dr. John Green, Jr., asked whether Dr. Ball had experienced any particular difficulty in enucleating this enormous eyeball.

Dr. Wm. H. Luedde asked what was the thickness of this flat sarcoma.

Dr. Ball, in conclusion, in reply to Dr. Luedde's question as to the thickness of the sarcoma, said that it varied from 2 to 5 mm. in thickness.

In regard to Dr. Green's inquiry, he said he had some difficulty in delivering the globe but did not find it necessary to split the canthus, succeeding in delivering the eyeball unruptured through the natural opening. In regard to the case of hydrophthalmus, the injury to the right eye produced a rupture of the sclera, and

that accounted for the disappearance of the large eye after it had been replaced in the orbit.

Transplantation of Corneal Tissue (Keratoplasty).—By Dr. Ernst Saxl.

Having seen the only successful case on record (Zirm's), Dr. Saxl made the following report and reviewal of the literature:

The operation of keratoplasty dates from 1824, when Reisinger suggested it, and made a few experiments on rabbits. Von Dieffenbach and others took up the suggestion with enthusiasm, the original operation being modified in various ways, and different instruments devised to facilitate it. The difficulties to be overcome were first clearly formulated by Marcus, viz.: (1) perfect correspondence in size and form of the graft and the opening; (2) rapid transference of the graft; (3) ready fixation of the graft; (4) prevention of the inner parts of the eye from being pushed forward through the opening.

All the early attempts were without success, and the operation was gradually lost sight of, until it was brought to light again in 1872, by Power, and 1877 by von Hippel. Their cases, however, were failures, and it was reserved for Sellerbeck, 1878, to get the first successful result. His success however, was only temporary, for though the patient, on the fourteenth day, could read medium sized writing, his vision failed by the twenty-first day, and five months later the graft was more opaque than the untouched areas. So once more the operation, as a means for the recovery of vision, disappeared, and was only employed in order to reduce ectatic corneal cicatrices and to produce firmer scars after corneal affections.

In view of so many failures, the success attained by Zirm in a case which he records, deserves wide-spread recognition. He is able to report a continuance of such transparency as was present at first, eight months after the performance of the operation. The essential facts of the case are these:

A. G., a workman, 45 years of age, received a quantity of unslacked lime in each eye on the morning of August 30, 1904, and presented himself at the hospital on the same day. There was then a considerable quantity of lime still lying in the conjunctival sacs, and the membrane lining both upper lids, was swollen and reddened. The cornea of each eye was of a gray-white color,

and almost opaque, hardly permitting the pupil to be made out at all. The patient left the hospital on November 17th following with both cornea like ground glass, the irides just barely visible; able to count fingers at one metre with the left eye, and at half a metre with the right. He was re-admitted on November 22, 1905, showing then a very small degree of symblepharon, not sufficient to interfere with ordinary movements, with both corneæ entirely opaque except for the extreme periphery above at the limbus. Vision was reduced to knowledge of hand movements, but on both sides light perception and projection were prompt. Zirm determined to transplant cornea to replace the scar tissue, but he had to wait until December, 1905, for suitable material, which offered itself under the following circumstances: K. B., a boy of 11, injured his right eye in July, 1905, by a fragment of iron which flew from a piece which he was striking. On admission, he was found to have a small scar at the top of the cornea with an anterior synechia, and a pear-shaped pupil, behind which lay a grayish-white opaque layer. He was able to count fingers at 2½ metres. Under chloroform, two attempts were made to extract, with the magnet, the foreign body which certainly was present. At the first attempt the iris bulged forward, but after an iridectomy, performed to permit the escape of the foreign particle, it could not be induced to present either with the large or the hand magnet; then, after a copious loss of fluid vitreous, the globe collapsed, and on December 7, 1905, the eye was excised. It was immediately immersed in warm normal saline solution At the same time, A. G. was put thoroughly under chloroform and transplantation to his right cornea carried out. The first step was the formation of a conjunctival bridge below, then by means of von Hippel's trephine, a disc was removed from the peripheral portion of the cornea of the enucleated eye. Then with the same trephine, a disc, of course of exactly the same size, was removed from the leucomatous cornea, the transparent disc placed in the gap, and the bridge of conjunctiva drawn across it and stitched over. This operation was not a success.

At the same time another disc was removed from the cornea of the enucleated eye, this time from the center of it, immediately wrapped in gauze squeezed out of warm salt solution, and kept moist and warm in a stream of aqueous vapour. With the greatest of care and not a little difficulty, a disc was then re-

moved from the patient's left cornea and the corresponding piece of clear cornea inserted in its place, care being taken to touch it with no instrument from the beginning of the operation to the end. The new patch on the cornea fitted perfectly, both as to size and thickness, and in order to retain it satisfactorily in place, Zirm inserted two stitches in the conjunctiva, making a St. Andrew's cross of thread over the center of the flap.

A week later, the graft in each eye was clear, and with the left eye he could count fingers. In a few days the graft in the right eye began to give trouble, and had to be removed, but the left did better, and on January 12, he could count fingers with it at 3½ metres quite readily. On February 23, on focal illumination, a very faint haze could be seen, but part of the pupil margin was actually visible. On March 11, the patient went home, the clear graft looking black against the gray, cloudy, opaque cornea. On June 25, this was still true; the cornea itself was opaque, whitish and intersected superficially, with branching vessels. The graft, however, had none of these and at its margin was very sharply differentiated from the cornea by a tendinous looking ring. Just there the tissue was so perfectly clear that details of the iris could be made out quite well. Within that ring one or two very fine lines of opacuity could with difficulty be made out; except for them, the graft was quite transparent. None of the vessels mentioned above as being visible in the cornea penetrated the graft. The eye could even be examined with the ophthalmoscope and the disc carefully inspected. Vision was 5/50, and with a convex lens 5/20 and J. 13. The patient was able to get out by himself quite well, and even to perform such work as feeding and attending to cattle.

Zirm thus summaries the essential points:

1. The exclusive employment for the graft of human cornea, if possible youthful cornea, whose nutritive condition is favorable.

2. The exclusive employment of von Hippel's trephine, and instillation of eserine if the anterior chamber is present.

3. Deep anæsthesia, strict asepsia, and the avoidance of antiseptics.

4. The protection of the graft until it can be placed in position, between two pieces of gauze moistened with sterile physiological salt solution and kept warm in steam.

5. The holding of the graft in its place by two threads drawn through the conjunctiva and forming a cross in front of it.

6. Selection of cases.

The operation may be used also to take the place of an iridectomy or an iridomoty in cases of central cicatrices following corneal ulcers. If necessary the graft can be cut and placed a little eccentrically.

Zirm has in this case achieved a real triumph, which ought to be generally acknowledged, and which should encourage others to respect the attempt in similar cases or circumstances.

LLEWELLYN WILLIAMSON, M. D.,
Section Editor.

THE OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Thursday, December 10th, 1908.
The President, Mr. Marcus Gunn, in the Chair.

1. *Drawings Illustrating Connections between Circulus Iridis Major and Schlemm's Canal, traced in Serial Sections.* 2. *Color Microphotographs (Lumière process) Illustrating the same as* (1).—Dr. Thomas Henderson.

By means of these illustrations Dr. Henderson demonstrated that there are two venous systems, viz., the iris veins and Schlemm's canal, the former being the primary and the latter secondary and that therefore the intravenous pressure in Schlemm's canal must be less than that in the iris veins. Absorption of the aqueous must, on this account, take place more readily through Schlemm's canal than through the iris veins, and it is not until the venous pressure in the former rises to that of the latter that the absorptive power of the iris-venous system becomes apparent and effective.

An Improved Perimeter.—Mr. Priestley Smith.

Mr. Priestly Smith's original instrument is described in the Transactions of the Ophthalmological Society of 1883. The new model contains the following modifications: The base is hinged

at one end, so that an adjustment for height can be made rapidly by a single movement, all the parts remaining in the same relative position. The slope of the instrument when raised has no disadvantage, but rather the reverse.

The rest for the face is simplified; the button against which the cheek rests is 1 inch in diameter, and its upper margin should stand about 1 inch below the pupil.

The arc, instead of presenting a mere edge, now presents a surface 4 inches wide, which is covered with black woollen cloth so as to afford a uniform dull background for the fixation object. It is cut short at 85° instead of at 90° as heretofore. The test object, if the operator desires to use the radial method, may be a white or colored knob at the end of a wire, *e.g.*, a hat pin which is held in the hand. When the circular method, which Mr. Priestley Smith considers generally preferable, is employed, the test object is a piece of paper, 2 mm. square, gummed on a cloth-covered carrier which is placed on the arc.

A chart is placed at the back and marked by a scale as before, but the method of marking has been improved. The scale is supplemented by a series of short tubes corresponding in position with the circles on the chart; the test object being placed, for example, at the 10° circle, a pencil is placed in the corresponding tube; the hand wheel is rotated and if the test object disappears at any point the pencil is pressed against the chart until the position is reached at which the test object reappears. To represent faintness of test object over any part of the circle intermittent pressure may be used so as to make a dotted rather than a continuous line upon the chart.

The Diaphragm Test: a New Test for Binocular Vision.—Mr. N. Bishop Harman.

The principle of the test is the converse of Javal's bar-reading method.

The instrument consists of a strip of wood 44 cm. long, with a rack at one end to receive the test cards, and a clip at 11 cm. from the rack to hold the diaphragm. The latter is a piece of millboard measuring 9 by 6 cm. with a central aperture. There are two forms of aperture (*a*) a 1.7 cm. square, and (*b*) a circle of 1.7 cm. diameter. A fine wire is attached to the diaphragm and can be brought into the opening so as to form a fixation

object when required. By means of a handle beneath the base board the patient holds the instrument, with the free end of the rule against his upper lip.

A card of printed matter being placed in the rack the patient sees it through the diaphragm in such a way that only the middle portion is seen binocularly, the right side of the print is visible to the left eye only, the left side of the print to the right eye only. If a tendency to convergence exists the words are shortened in the middle portion, whereas if there is an inclination to divergence the central letters are reduplicated.

Other devices, such as colored squares placed at different levels so that it is impossible to fuse them, may be used. A curious result is obtained by using two crosses, thus + ×. At first by fusion an eight-pointed star is produced, but after a short time an alternation of vision sets in, the images of right and left eyes appearing and fading in regular sequence.

Mr. Harman thought that the apparatus would be particularly useful for the detection of malingerers.

A case of Discoid or Coppock Cataract.—Mr. Leslie Paton.

A woman, aged 40, had noticed dimness of sight for 20 years. Vision, with correction, was 6/9. In each lens was a small granular disc, post nuclear, its edges not sharply defined.

The patient was not aware of her defect and there was no history throwing any light on the condition.

PAPERS.

A Note on the Operative Treatment of Strabismus.—Mr. G. Brooksbank James.

In this paper Mr. Brooksbank James described a method of advancement of the external rectus muscle which he had adopted in 35 cases of convergence, and the results in those cases in which the angle of the squint did not exceed 20 degrees were very satisfactory.

The mode of procedure was as follows: Having isolated the muscle from its surrounding parts, it is grasped in the usual way by Prince's forceps and divided. A short straight double-edged needle threaded with silk is then passed through conjunctiva and Tenon's capsule at the lower border of the tendon and at varying distances from the Prince's forceps; it is then passed

vertically through the scleral tissue (well bared by dissecting a flap of conjunctiva) for about 2 mm. as close to the cornea as possible. Next the needle is carried backwards and is passed through muscle, capsule and conjunctiva about 2 mm. above the point of entry. A similar suture is passed through the upper margin of the muscle. While an assistant adjusts the edge of the muscle held by Prince's forceps the sutures are tightened up and tied, and lastly the forceps are removed by cutting off the necessary portion of muscle.

Mr. James objects to the operation of tenotomy of the internal rectus muscle; and if an advancement of one external rectus is not sufficient to remove the deformity, a similar treatment of the opposite external rectus is resorted to.

Some Observations on Cataract Extraction.—Major Elliott, I.M.S.

Major Elliott divided his remarks under four main headings:

1. Antisepsis of the conjunctival sac before operation.
2. The value of laceration of the capsule with Bowman's needle before making the corneal incision.
3. The danger of vitreous loss.
4. The value of free irrigation of the anterior chamber as a means of clearing it of soft lens matter, and preventing inclusion of tags of capsule or iris in the lips of the wound.

As regards the first of these divisions he had adopted many different methods, but had finally come to the conclusion that the following was the most satisfactory one for rendering the conjunctival sac aseptic. Ten minutes before the operation the lids are exposed for 1 or 2 minutes to a stream of perchloride of mercury lotion (1 in 3000), and immediately before operation the conjunctival sac is wiped out with cotton wool swabs under a stream of boiled water. The results of this course of sterilization were shewn in some remarkable statistics. Whereas in 1897 there were 98 failures due to sepsis out of 1161 extractions, and again in 1904 4.53% cases of suppuration, in 1907 there was only one case of suppuration in 1000 cataract extractions, and in this instance it was found to be due to overlooked remains of a lacrimal sac supposed to have been excised by another surgeon.

The practice at Madras was to open the capsule with a needle as the first step in the operation, the pupil being previously dilated. Major Elliott recommended the proceeding as allowing

free and deliberate division of the capsule in any desired direction, while at the same time valuable information was obtained regarding the size and consistence of the lens. The presence of a Morgagnian cataract was no contraindication to the employment of a needle in opening the capsule before making the incision. As a matter of practice, the point of the knife could be easily seen even when the fluid contents of the cataract occupied the anterior chamber, and the presence of this fluid actually increased the depth of the chamber thus rendering the passage across of the knife more simple than usual.

Loss of vitreous had always been regarded by Major Elliott as a complication to be dreaded and avoided, though he had personally but little experience of this particular class of cases. At the same time if it could be shown that the fear of escape of vitreous had been exaggerated, he felt that there was very much to be said in favor of the operation for removal of the lens in its capsule.

Major Elliott was a warm advocate of irrigation of the anterior chamber by McKeown's method after removal of the lens. The stream of fluid could be directed to all parts, both beneath and above the iris, thus washing out all soft lens matter, replacing the iris, and removing tags of capsule from the lips of the wound.

Iridectomy in cases of Acute Iritis in which the Pupil cannot be dilated.—Dr. Adolph Bronner.

After pointing out that for many years it had been the recognized opinion amongst ophthalmic surgeons that the performance of iridectomy should not be undertaken during the stage of acute inflammation of the iris, Dr. Bronner described 6 cases in which he had performed this operation for the relief of pain, and in order to obtain dilatation of the pupil which had remained inactive in response to the usual treatment with atropine, leeches, and hot bathing. He, however, insisted on the use of the usual local and general remedies even though iridectomy had been performed. The results of the operation had been satisfactory in all his cases, and he suggested that iridectomy should be performed in all cases of iritis where the pupil refuses to dilate in 4 or 5 days under the ordinary methods of treatment. He excludes all cases of serous iritis and of sympathetic ophthalmia.

MALCOLM L. HEPBURN.

ABSTRACTS FROM MEDICAL LITERATURE.

By J. F. Shoemaker, M.D.,
St. Louis, Mo.

IMMEDIATE AFTER-TREATMENT OF PATIENTS OPERATED ON FOR CATARACT (WITHOUT BANDAGE).

J. W. Scales (*Jr. A. M. A.*, June 22, 1907) believes that better results are obtained and the patient is more comfortable if no bandage is applied after the extraction of a cataract. He makes an ample conjunctival flap in making his incision, which helps to prevent infection by its quickly closing the wound. For the first dressing he applies a double layer of moist bichloride gauze and protects the eye by the use of a wire screen applied over it. After six hours the gauze is removed and a drop of atropin solution instilled. The patient is permitted to sit up throughout the convalescence. He suggests the following reasons for not using a bandage:

First. The bandage interferes with natural drainage and brings about a retention of secretions which is to be avoided.

Second. The bandage interferes with uniform pressure on the wound and ball of the eye, such as would be maintained by the natural position of the lid itself.

Third. It creates a feeling of discomfort and restlessness, which interferes with the healing process in that it increases the involuntary mobility of the eye.

Fourth. It is a factor in producing entropion of the lower lid, which in many cases is exceedingly difficult to avoid.

Fifth. It is a factor in producing conjunctivitis, iritis and cyclitis.

DISTURBANCES IN VISION AFTER LOSS OF BLOOD.

Powell (*Medizinsche Klinik*, March 29, 1908) reports a case of choked disc causing almost complete blindness coming on a few days after excessive menstrual hæmorrhage in a girl 16 years of age who had previously been in apparently good health. No cause could be found to account for the hæmorrhage. The vision improved in the one eye later so that she could count

fingers at six feet, but the other eye is absolutely blind. The author refers to 198 cases in literature where optic neuritis resulting in atrophy occurred after severe loss of blood. He believes there must be some blood dyscrasia or nutritional disorder in these cases, as he has found no record of such ocular disturbance in healthy soldiers after hæmorrhages.

The amaurosis was unilateral in only 12.4 per cent. of the total number of recorded cases, but one eye was frequently more severely affected than the other, the right eye being the worse in 85.7 per cent. In several cases the blindness was complete in both eyes, coming on suddenly, the patients generally awaking in the night with a severe headache and finding themselves blind. The author's case came on thus, being practically blind at first. One case of sudden total deafness from this cause is reported. The only treatment is to restore the strength and supply the missing juices of the body by dietetic and tonic measures. Strychnin and galvanization may assist to maintain the excitability of the optic nerve. Because of the bad prognosis visual disturbances coming on after severe hemorrhages are quite as much to be feared as amaurosis following the use of quinin, wood alcohol or other poisons.

RELATION OF EYE STRAIN TO EPILEPSY.

M. B. Hodskins and G. A. Moore (*Vermont Medical Monthly*, March, 1908), having placed a large number of epileptic patients in the Massachusetts Hospital for Epileptics under full cycloplegia and kept them thus for a period of one month, compared the results as shown by the number of epileptic attacks during this time and by the average number at other times. Eighty-eight cases were observed and the analysis shows the following results. The total number of seizures in a minimum month was 545, or an average of 6.1 per patient. The total number in a maximum month was 1,630 or an average of 19.6 per patient. Thus the general average would be 12.85 seizures per patient. During the month of full cycloplegia the total number of seizures was 1,110, or an average of 12.6 per patient, practically the same as that obtained by averaging the maximum and minimum months. While admitting that eyestrain may be an exciting factor in persons with very unstable nervous systems, the authors are convinced that ocular defects play a very insignificant role in the causation of epilepsy.

THE TREATMENT OF STRICTURES OF THE NASAL DUCT WITH LEAD STYLES.

H. Moulton (*Jour. A. M. A.*, October 10, 1908), while not advocating that styles should be used in all cases of nasal stricture, believes, nevertheless, that this method of treatment is a very valuable one in certain cases. Many cases can be cured by syringing the sac or by syringing and probing, but other cases will not yield to this form of treatment, no matter how well applied or how faithfully continued. In such cases we must either leave the patient to his fate, extirpate the sac, or adopt some means of permanent dilatation. The extirpation of the sac of course relieves the trouble and in aged patients where an operation on the globe is necessary this method may be adopted at once. However, permanent dilatation has given such uniformly good results in Moulton's hands that he thinks it is well to try this means before resorting to so radical an operation as extirpation of the sac. He prefers the use of styles rather than canulas because experience has proven that canulas become closed with secretion quickly, when they cease to drain the sac and become a source of infection. The cleansing necessary to overcome this difficulty is often more irksome to both patient and physician than is probing. Different kinds of styles may be employed. The author prefers lead to gold or silver because: (1) it is a pliable material; (2) it is easily cut, smoothed and adapted to each individual case by the surgeon himself; (3) it is comfortable to the patient; (4) it is not acted on by the secretions; (5) it is cheap and easily obtained. Fuse wire used by electricians is the best lead wire from which to make the styles. This can be obtained in about 1 mm., 1.5 mm. and 2 mm. thickness from which the proper sized styles can be made.

Concerning the introduction of the styles Moulton says:

The proper preparation and placing of the styles are essential to success, and close attention must be paid to this important, if simple, technic. After the canaliculus has been cut and the duct dilated, at one sitting or several, to Bowman's No. 5, or even to No. 8, if possible, the depth of the duct is measured on the probe, and a piece of lead wire is cut to the corresponding length, taking off about one-eighth of an inch from the lower end to prevent it from resting on the floor of the nose and allowing from one-fourth to three-eighths of an inch extra length

on the upper end to be bent over at a little more than a right angle to prevent its slipping down out of reach. The main shaft of the style should be curved to fit the canal, as determined by the bend of the probe which has been passed. The shoulder or upper end should have a curve slightly down and forward so that it will lie in the slit canaliculus, out of view and without tension. The tip of this upper end must not turn backward toward the eyeball. If it does it will cause trouble by touching the eyeball or by compressing the tissues of the eyelid between it and the eyeball. There should be no tension. If the end sticks up a little, it may be bent down without withdrawing the style.

A pair of dressing forceps or iris forceps, without teeth, may be used to insert the style. It is well to remove the style and replace it again every three or four weeks. After it has been worn several months it is well to leave it out a week and then replace it if the duct does not remain open. Appropriate nasal or other treatment should, of course, not be neglected.

THE EYE SYNDROME OF DEMENTIA PRAECOX.

Preliminary Report on Ocular Signs and Symptoms of Dementia Praecox and Their Significance, as Observed in 115 *Consecutive Cases.*

H. H. Tyson and L. P. Clark (*Jour. A. M. A.*, May 2, 1908) have examined 115 consecutive cases of dementia praecox with the view of determining whether there were any ocular symptoms or conditions which were common to all or most of the cases of this disease. All forms of dementia praecox were studied and changes in the optic discs, pupils, visual fields and corneal sensibility were found so frequently that they may be spoken of as a new syndrome. Many of the conditions found were such as might be caused by autointoxication, which lends strength to the theory that this disease is an autotoxic one.

They divide the fundus changes into three groups as follows, which is the usual order of their occurrence:

1. Congestion of discs; hyperemia and œdema; dilated, dark colored veins; slightly contracted arteries and blurring of the edges of the discs, all varying in degree. These changes constitute a low grade of perineuritis of the optic nerve.

2. Congestion of the nasal side, with temporal pallor of discs, dilated veins, contracted arteries.

3. Pallor of discs, dilated veins, contracted arteries. These changes constitute anemia and partial atrophy of the optic nerve.

These fundus changes were found in all the cases examined. It it interesting to note that the hygienic treatment of autointoxication, viz.: free catharsis, intestinal antiseptics, baths and dietetic regulations, caused a marked improvement in the congestive margins of the discs in the first stages of the fundus changes, but did not appear to affect the central œdema or transitional pallor.

Of 85 cases in which the pupils were examined the average size of the pupils in a moderately light room was 4 77/85 mm., the average of a number of healthy persons' pupils being 3 68/85 mm., an average increase of 1 9/85 in the cases of dementia praecox. The light reaction was active in 71 cases and sluggish in 14. Consensual reaction was active in 68 cases and sluggish in 17. Accommodation and convergence were active in 71 cases and slugglish in 13. Hippus was present in one case. The sensory pupillary reflex was slightly positive in 6 cases and negative in 79. The psychic reflex was slightly positive in 4 cases and negative in 85. Piltz-Westphal reflex was positive in 2 and negative in 85 cases, the 2 cases in which it was at first positive later becoming negative. The negative reactions of the pupil appear to be due to (1) loss or partial loss of function through defective nerve innervation; (2) defect in attention; (3) diminished apperception. Corneal sensibility was diminished in 69 cases and present in 17. In 81 cases the visual fields were examined and all were found to be concentrically contracted. The largest field was 30 degrees and the smallest 0 degrees, the average being 10.6 degrees. This marked contraction of the fields may be explained, the authors think, by the inattention of the patients, diminished capacity for externalization, and by the œdema and congestion of the optic nerve in the early stage and by ultimate shrinkage of the new connective tissue in the partial atrophy of the nerve.

In conclusion they say: The clinical significance of these findings is of importance:

1. They indicate that dementia praecox is attended by such an early and constant syndrome of alteration in disc, visual field, pupil, and corneal sensibility as to materially aid in diagnosticating the psychosis. Consideration of the syndrome will particularly aid in the differential diagnosis of dementia praecox from the

manic-depressive group, acquired neurasthenia, hysteria, and the various forms of inbecility and constitutional inferiority.

2. The syndrome is a distinct contribution to the theory that dementia praecox is an autotoxic disease, and that the poison is primarily vascular, which finally induces neuronic degeneration. It points to a toxin of some sort, which is either a metabolic defect in the tissues (ductless gland defect) or, what seems more probable, that the poison is generated in the liver or in the gastrointestinal tract itself.

3. The syndrome is of prognostic value, as the severer grades of the eye changes are found in the more rapidly deteriorating cases.

4. Finally, the optic nerve lesion is quite in accord with our best knowledge of the pathologic anatomy of dementia praecox, in other tracts of the brain (than the optic nerve which itself may be counted an analogue). The early vascular changes in the brain ought to receive more serious investigation.

VALUE OF SWEATING IN THE TREATMENT OF INTERNAL AFFECTIONS OF THE EYE.

Howard F. Hansell (*Penn. Med. Jour.*, August, 1908) believes that this method of treatment is not employed as frequently as it should be in serious affections of the eye. Owing to the depression which sometimes follows the use of jaborandi (pilocarpin) he rarely ever uses it, but depends on the application of dry heat. His method is to first cover the mattress of the bed on which the patient lies with a rubber sheet and to wrap the patient with three blankets. Receptacles filled with hot water are then placed on each side of the patient from the feet to the shoulders and as close to him as can be permitted and the patient given a cup of hot fluid, tea by preference.

If the hot water applications are continued the sweating should begin very promptly. The sweat glands are stimulated by giving a glass of ice water to drink a half hour after the sweating has begun. The head should be wrapped with a wet towel or an ice cap be worn. The duration of the sweating should depend on the condition of the patient, Hansell limiting the process to one and a half hours at most. Following the sweating the body should be dried and rubbed with alcohol and the patient placed in a dry, warm bed where he should remain for several hours,

it being best to give the sweat the latter part of the afternoon and the patient remain in bed until the following morning. The number and frequency of the sweatings must be regulated by the severity of the disease, the physical condition of the patient and the manner in which he reacts to the treatment, as well as the effect the treatment has upon the eye condition for which it is employed. While the patient's temperature may rise to 102° or 103°F. by the end of the sweating it usually returns to normal in two or three hours; if it does not the treatment should not be repeated. Should the temperature fall much below normal, strychnin or some other stimulant is to be given.

Hansell and others whom he quotes believe that this treatment may be of service in cases of opacity of the vitreous and in alcohol and tobacco amblyopia. In the latter conditions the tobacco and alcohol must be withdrawn and strychnin given in addition to the diaphoresis.

MIOTICS VERSUS IRIDECTOMY IN THE TREATMENT OF SIMPLE CHRONIC GLAUCOMA.

AN ANALYTICAL STUDY OF SIXTY-FIVE CASES TREATED BY MIOTICS OVER A PERIOD OF YEARS.

W. C. Posey (*Jour A. M. A.*, October 24), having carefully watched and treated with miotics sixty-five cases of simple glaucoma over an average period of five years and eight months, has made a close study of them and gives the following summary:

Apparent arrest of the progress of the disease as to central vision, condition of the field and tension in twenty-one eyes, or 18.2 per cent.; sixteen eyes passed into absolute glaucoma. Central vision was maintained in 80 per cent. of the cases and lost in 20 per cent. He compares these results with the results reported by Bull, Schleich and others where central vision was lost in much higher per cent. of the cases. He admits that his series contains too few cases to prove the superiority of the miotic treatment over the operative, but thinks that his results at least make it appear that such is the case. He concludes his paper thus:

I desire to emphasize what I have already said elsewhere: First, that miotics should be relied on as the sole means of treatment only in those cases which are free from attacks of so-called "glaucomatous congestion," the presence of such conges-

tive symptoms being in my opinion the chief indication for iridectomy; and second, that to gain the full benefit of miotics it is necessary that they should be administered properly. Beginning in doses small enough to avoid creating spasm of the ciliary muscle, and rapidly increasing the dose until the pupil of the affected eye is strongly contracted, this degree of contraction should be maintained as long as life lasts by gradually increasing the strength of the solution, from time to time, and by instillations of the drug at intervals of every three or four hours. Conjunctival irritation may be avoided by employing only fresh and sterile solutions of the drug. Suitable cleansing washes should be administered, and attention given to the general health and especially to the condition of the blood vessels. Careful and repeated correction of the refraction error should be made and restrictions enjoined on the use of the eyes.

ANÆSTHETIZATION OF THE EYE AND ITS ADNEXA.

Messmer (*Muenchener Medizinische Wochenschrift*, November 10, 1908) employs different anæsthetic procedures in various operations in the following manner: In operations for cataract without iridectomy he instills two drops of a five per cent. solution of cocain hydrochlorate into the conjunctival sac with an interval between them of five minutes. He then washes out the conjunctival sac, disinfects the lids and the neighborhood of the eye, and then again instills two drops of cocain within ten minutes. The cocain is sufficient to render the operation for cataract absolutely painless when no iridectomy is performed. When an iridectomy is to be performed one drop of cocain is instilled into the conjunctival sac alternately with a drop of holocain every five minutes until three drops of each solution have been used. He uses holocain because of the greater depth of its action. If half an hour is allowed for the anæsthetization of an uninflamed eye the iridectomy can be performed without pain. This he considers much superior to the instillation of a solution of cocain upon the iris after the section has been made, or the introduction of cocain itself into the anterior chamber, because such procedures tend to make a restless patient more restless. Before iridectomy or sclerotomy for glaucoma he first instills a drop of eserin and then cocainizes the eye. If the cocain dilates the

pupil too widely he repeats the instillation of eserin. In operations in inflamed eyes he combines the use of suprarenalin with that of cocain in order to lessen the engorgement of the vessels and thus favor the anæsthetic effect of the cocain. For enucleation he has been unable to obtain perfect local anæsthesia and prefers to use ether. When this is impracticable he first cocainizes the eye in the usual way and then injects deeply into the orbit beside each of the recti muscles a two per cent. solution of tropocain. Before tenotomies and advancements he first cocainizes the eye and then secures a bit of cotton wet with a five per cent. solution of cocain over the insertion of the tendon to be operated on. During the operation pledgets wet with cocain and suprarenalin may be applied to the site of operation. In this way a tenotomy may be rendered painless and in advancements the pain rendered bearable. The injection of cocain into the insertions of the muscles is less desirable because of the bleeding and swelling so produced. He also recommends this application of cocain or of cocain and suprarenalin on pledgets of cotton in the removal of small tumors from the conjunctiva or eyeball, as he has found that he obtains in this manner a deeper anæsthetization than after simple instillation. He likewise uses this method of anæsthesia as more rapid in ambulatory work, such as subconjunctival injections. In certain injuries and erosions of the eyeball he instills cocain in spite of theoretical objections and binds up the eye for several days. For infiltration anæsthesia of the lids he uses a two per cent. solution of cocain with adrenalin in the proportion of one drop of a 1 in 1,000 solution of the latter in 1 c.c. of the former. For complete anæsthesia by this method one must know how the infiltration is generally performed and must wait from five to ten minutes after its completion before beginning to operate. This method is used in a special way to produce local anæsthesia prior to extirpation of the lacrimal sac.—*N. Y. Med. Jour.*

THE CHALAZION, ACNE OF THE MEIBOMIAN GLANDS. HISTOLOGY AND PATHOLOGY.

Sabrazes and Lafon (*La Semaine Mèdicale*, November 11, 1908) have made a careful study of the histology, bacteriology, and pathogeny of acne and chalazion, and from this study, together with a review of the literature on the subject, have concluded that chalazion is merely acne of the meibomian glands.

REVIEWS.

A System of Ophthalmic Therapeutics. Being a complete work on the non-operative treatment, including the prophylaxis, of diseases of the eye. Edited and chiefly written by Casey A. Wood, M.D., C.M., D.C.L. Illustrated and completely indexed. Chicago: Cleveland Press. 1909.

Although there are translations of several foreign books on ocular therapeutics in the market, this seems to be the only American work having for it sole object the discussion of ocular therapeutics. While Dr. C. A. Wood has written most of it, a number of chapters are written by other men well known in their specialties in our specialty. Thus a volume of nearly 1000 pages has been compiled which from the richness of its contents should not be wanting in any oculist's office.

The vast material is logically subdivided and each paragraph has its separate head in fat type which is very helpful when looking up a special subject.

We congratulate the author and publisher.

Retinitis Pigmentosa. With an analysis of seventeen cases occurring in deaf-mutes. By W. T. Shoemaker, M.D. Laboratory examinations of the blood and urine by J. M. Swan, M.D. With illustrations and three colored plates. Philadelphia: J. B. Lippincott Co.

This excellent monograph on retinitis pigmentosa was awarded the Alvarenga prize of the College of Physicians of Philadelphia in 1908. It is not often that one man has an occasion to observe at the same time a number of cases of pigmentary retinitis under as favorable circumstances as was the author's good fortune. He certainly has made good use of it, and studied this interesting subject from all the different points of view. The illustrations, by which are meant 3 color plates of the ophthalmoscopic appearances, are very good. Alt.

Editorial Notice.

The 14th annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in New York City on October 4th, 5th and 6th.

PAMPHLETS.

Traumatic Injuries to the Eyes. By Ch. J. Kipp.

Hæmorrhages into the Vitreous Body in the Adolescent. By J. A. Gehrung.

Report of Two Cases of Sinus Thrombosis Complicated by Cerebral Abscess in the Temporo-sphenoidal Lobes. By W. R. Dabney.

A New Method of External Frontal Sinus Operation without Deformity. By J. C. Beck.

Diagnostic Value of the Cutaneous and Conjunctival Tuberculin Reactions. By W. Engelbach and J. W. Shankland.

The Operative Treatment of Papillo-œdema (choked disc), with special reference to decompressing trephining. By G. E. de Schweinitz and T. B. Holloway.

Prevention of Cancer Cell Implantation. By E. A. Babler.

Partial Thyroidectomy Combined with Roentgen Treatment in Basedow's Disease. By J. C. Beck.

Further Experiences with the Smith-Indian Operation in the Extraction of 15 Cataracts. By D. W. Greene.

The Ophthalmo-Tuberculin Reaction. By G. F. Keiper.

Wucherungen and Geschwuelste des Ciliarepithels. By E. Fuchs.

Vordere Synechie and Hypertonie. By E. Fuchs.

Surgery of the Facial Nerve. By J. C. Beck.

A Winter Cruise to the Orient. By C. A. Wood.

Report of the Eye Department in the Hospital of the University of Pennsylvania.

Autointoxication, a further contribution to the possible relationship of autointoxication to certain diseases of the cornea and uveal tract. By G. E. de Schweinitz.

Cerebral Abscess. By E. Amberg.

The Surgical Treatment of Orbital Complications of the Nasal Accessory Sinuses. By A. Knapp.

Remarks on Vibratory Massage in Eye Diseases. By L. Connor.

The Increasing Importance of Tuberculosis as a Cause of Ocular Disease. The newer methods of diagnosis and Treatment. By G. S. Derby.